केन्द्रीय मुहर विभाग -2

हमारा संदर्भ : सी एम डी-2/16: 513 (भाग 2) 14.03.2018

विषय: IS 513 (Part1):216, IS 513 (Part 2):2016, IS 11513:2017 की संशोधित एस टी आई का अनुपालन

यह उपरोक्त विषय एवं सी एम डी-2 के नोट सं सीएमडी-2/16: 513 (भाग 1 एवं 2) दिनांक 19.05.2017 के संदर्भ मे है।

सक्षम अधिकारी ने निम्नलिखित संशोधित एस टी आई को सहमति प्रदान की है। यह एस टी आई संलग्न है।

मानक संख्या	प्रचलित एस टी आई	संशोधित एस टी आई
IS 513 (Pt.1):2016	Doc : STI/513(Pt.1)/ 11, April 2017	Doc: STI/513(Pt. 1)/2 March 2018
IS 513 (Pt.2):2016	Doc : STI/513(Pt.2)/ 1, April 2017	Doc: STI/513(Pt. 2)/2 March 2018
IS 11513:2017	Doc: STI/11513/6 July 2017	Doc: STI/11513/7 March 2018

संशोधित एस टी आई मे "प्रॉडक्ट एनालिसिस" व "रिजेक्शन" क्लौसेस मे परिवरतन किया गया है।

नोट सं सीएमडी-2/16: 513 (भाग 1 एवं 2) दिनांक 19.05.2017 द्वारा परिचालित मौजूदा कार्यान्वयन दिशा निर्देश मे इसके अलावा कोई परिवर्तन नहीं है।

सभी संबन्धित क्षेत्रीय/शाखा कार्यालयों से अनुरोध है की संशोधित एस टी आई को लाइसेंसधारियों/आवेदकों के संज्ञान में लाए एवं तत्काल प्रभाव से अनुपालन सुनिश्चित करें।

(अरुण पुच्छकायला)
वैज्ञा. सी

प्रमुख (के.मु.वि.–2)

सभी क्षेत्रीय/शाखा कार्यालयों को परिचालित
प्रतिलिपि: आई टी एस इंट्रानेट पर अपलोड करने के लिए

CENTRAL MARKS DEPARTMENT 2

Our ref.: CMD-2/16: 513(Pt.2) **14 03 2018**

Subject: Implementation of revised STI of IS 513 (Part 1):2016, IS 513 (Part 2):2016 and IS 11513:2017

This has reference to the above and CMD-2's note no. CMD-2/16:513 (Pt 1&Pt2) dt. 19.05.2017.

The Competent Authority has granted approval for following revised STIs which are enclosed.

IS No.	Existing STI	Revised STI
IS 513 (Pt.1):2016	Doc : STI/513(Pt.1)/ 11, April 2017	Doc: STI/513(Pt. 1)/2 March 2018
IS 513 (Pt.2):2016	Doc : STI/513(Pt.2)/ 1, April 2017	Doc: STI/513(Pt. 2)/2 March 2018
IS 11513:2017	Doc: STI/11513/6 July 2017	Doc: STI/11513/7 March 2018

In the revised STIs, modifications have been made in clauses pertaining to "Product Analysis" and "Rejection".

Guidelines for implementation of revised IS 513 (Part 1):2016, IS 513 (Part 2):2016 circulated vide CMD-2's note no. CMD-2/16:513 (Pt 1&Pt2) dt. 19.05.2017 remains unchanged otherwise.

All ROs/BOs are requested to bring the above revised STI to the attention of licensees/applicants and ensure its implementation.

(Arun Pucchkayala)

Scientist C, CMD-2

HCMD-2

Circulated to all ROs/BOs
Copy to: ITS for hosting on BIS Intranet.

SCHEME OF TESTING AND INSPECTION FOR CERTIFICATION OF COLD REDUCED CARBON STEEL SHEET AND STRIP PART 1 COLD FORMING AND DRAWING PURPOSE ACCORDING TO IS 513 (part 1):2016 (Sixth Revision)

1 **LABORATORY -** A laboratory shall be maintained which shall be suitably equipped and staffed, where the tests shall be carried out in accordance with the methods given in the specification.

1.1 All testing apparatus/measuring instruments shall be periodically checked, verified and calibrated as appropriate and records of such checks/verification, calibration shall be maintained.

1.2 Periodic calibration shall be done on the tensile testing machine. The frequency of such calibration should preferably be once in six months, and in any case, not more than once in a year.

2 TEST RECORDS - All records of tests as per this scheme of testing and inspection shall be kept in suitable forms.

2.1 Copies of any records or charts that may be required by BIS shall be made available at any time on request.

3. QUALITY CONTROL – It is recommended that, as far as possible, Statistical Quality Control (SQC) methods may be used for controlling quality of the product during production as envisaged in this scheme [See IS 397 (Part 1), IS 397 (Part 2) and IS 397 (Part 3)].

3.1 In addition efforts should be made to gradually introduce the Quality Management System in accordance with IS/ISO 9001.

4. STANDARD MARK - The Standard Mark, as given in Column (1) of the first schedule of the licence, as specified for cold rolled carbon steel sheets and strips as per IS 513(part 1):2016 shall be legibly marked on top of each package of sheets and strips.

4.1**TEST CERTIFICATE** – For each consignment of BIS Certified material conforming to IS 513(part 1):2016 there shall be a test certificate which shall contain the Standard Mark, the cast number, Control Unit number, designation, grade and the corresponding test results (as given in Annexure I).

4.2 **MARKING** – The following shall be legibly marked on the top of each bundle or package of sheets and strips or shown on a tag attached to each coil :

a)Manufacturer's name or trade mark,
b) Nomenclature of grade Quality
c) Product dimensions,
d) Cast or identification mark by which the sheet or strip may be traced to the cast or casts from which they were made,
e) Mass/Net weight and
f) Date of manufacture
g) Licence No. (CM/L….)

h) temper
i) surface finish designation

4.3 **SUPPLY OF MATERIAL AND DELIVERY CONDITIONS -** The material shall meet the requirements of clause 4 and 13 of the specification.

4.3.1 **PACKING** - Each sheet shall be treated on both sides with non-hardening type preventive oil which can be easily washed with aqueous alkali solution. The product may be ordered "not oiled" if required [Ref. cl.9.6 of IS 513(part 1):2016].

4.3.2 Sheets and strips shall be supplied in bundles or packages not weighing more than 3 tonnes or as agreed to between the purchaser and the manufacturer.

4.3.3 Sheets and strips shall be securely packed in waterproof material and covered all over with steel envelope and securely tied round with steel straps and preferably with wooden battens underneath to prevent the sheets from rusting and damage during transit.

5. LEVELS OF CONTROL : Inspection and tests at various levels of control specified in Table 1 shall be carried out on all quantities of steel intended to be covered under this scheme and appropriate records as per para 2 and charts as per para 3 of this STI shall be maintained. All production which conforms to the Indian Standard and covered by the licence shall be marked with BIS Standard Mark.

5.1 **METHOD OF MANUFACTURE** – The method of manufacture of Steel for sheets and strips shall be left at the discretion of the manufacturer.

5.2 **CONTROL UNIT:** For the purpose of this scheme, 50 tonnes of material or part thereof representing the same cast, grade quality and heat-treatment (if any) rolled to same thickness and processed in same condition shall constitute a control unit.

5.3 Sheets and strips shall be supplied rimmed, semi-killed or killed condition as agreed to between the purchaser and the manufacturer. However, grades supplied in delayed ageing and non-ageing guarantee shall be supplied only in fully aluminium killed or in a fully stabilized condition.

5.4 On the basis of tests and inspection results, decision regarding conformity or otherwise of lots of steel to the requirements of the specification shall be taken as indicated below:

5.5 **CHEMICAL COMPOSITION** - Chemical composition (Ladle analysis) obtained by analyzing one sample from each heat shall conform to the requirements laid down in Table 3 of the specification. Product analysis shall be carried out at the rate of one from every cast and the permissible variation in the case of product analysis shall be as laid down in Table 4 of the specification. The analysis of the steel shall be carried out according to IS 228 and its relevant parts or any other established instrumental/chemical method. In case of dispute the procedure given in IS 228 and its relevant parts shall be referee method. The manufacturer shall declare the established instrumental method adopted for chemical analysis, details of the reference material accompanied with test certificate used for its calibration and frequency of calibration.

5.6 **RETEST -** If a test does not give the specified results, two additional tests shall be carried out at random on the same lot. Both retests shall conform to the requirements of this standard, otherwise, the control unit shall be rejected.

6. **REJECTIONS** - Any rejected material which is potentially re-salable be sheared or cut or deformed in such a manner that it cannot be used for any other purpose except re-melting. A separate record shall be maintained giving information on quantity and cast number/coil number/control unit number, as applicable, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

7 SAMPLES - The licensee shall supply, free of charge, the samples required in accordance with Regulation of the Bureau of Indian Standards from his factory or godown. BIS may procure samples from open market.

8.0 REPLACEMENT - Whenever a complaint is received soon after the goods with Standards Mark have been purchased and used, and if there is adequate evidence that the goods have not been misused, defective goods shall be replaced free of cost by the licensee in case the complaint is proved to be genuine and the warranty period (where applicable) has not expired. The final authority to judge conformity of the product to the Indian standards shall be with the Bureau. The firm shall have own complaint investigation system as per IS/ISO 10002.

8.1 In the event of any damage caused by the goods bearing the Standard Mark, or claim being filed by the consumers against BIS Standards Mark and not "conforming to" the relevant Indian Standard, entire liability arising out of such non conforming product shall be of the licensee and BIS shall not in any way be responsible in such cases.

9. STOP MARKING - The marking of the product shall be stopped under intimation to the Bureau if, at any time, there is any difficulty in maintaining the conformity of their product to the specification, or the testing equipment goes out of order or for any reason. The marking may be resumed as soon as the defects are removed under intimation to BIS. The licensee shall implement the provisions of self-stoppage of Marking as mentioned in BIS Act, Rules and Regulations.

9.1 The marking of the product shall be stopped immediately if directed to do so by Bureau for any reason. The marking may then be resumed only after permission by the Bureau. The information regarding resumption of markings shall also be sent to the Bureau.

10 PRODUCTION DATA - The licensee shall send to BIS a statement of quantity produced, marked and exported and the value thereof at the end of each operative year of the licence as per the enclosed proforma which has to be authenticated by a Chartered Accountant.

Table 1…..

IS 513(part 1):2016, COLD REDUCED CARBON STEEL SHEET AND STRIP
PART 1 COLD FORMING AND DRAWING PURPOSE
TABLEL 1 (LEVELS OF CONTROL),
(Para 5 of the Scheme of Testing and Inspection)

TEST DETAILS				LEVELS OF CONTROL			REMARKS
Cl	Requirement	Test Method		No. of samples	Lot size	Frequency	
		Clause	Reference				
7	**Chemical Composition**	IS 228 or any other established instr/ Chem. Method. Alternatively, the method specified in relevant ISO/IEC standard may be used.					
	a) Ladle Analysis	7.1 7.2 Table 3	IS 513(part 1):2016 IS 228	One	Each Heat	Each Heat	Applicable for primary steel producers only
	b) Product Analysis	7.3 Table 4	IS 513(part 1):2016	i) Nil ii) One	i) Nil ii) Each Cast	i) ----- ii) Each Cast	i) Applicable for primary steel producers with steel making and rolling facilities, wherever traceability to the heat is ensured by the manufacturer. ii) Applicable for manufacturers feeding to rolling mills. In case the material obtained from primary producers of steel is ISI marked and received with test certificate no further testing is required.
8	**Mechanical and Physical Properties**						
8.1	Tensile Test	8.1.1, 8.1.2,8.1.3 , 8.1.4 & 8.1.5 Table 5A,5B, 5C	IS 513(part 1):2016 IS 1608	One	50 tonnes or less	Each Control Unit	To be carried out only if specified by the purchaser
8.2	Cupping Test	8.2 Fig.1	IS 513(part 1):2016 IS 10175	One	-do-	-do-	Applicable for steel grades of quality CR2,CR3,CR4 subject to mutual agreement between

							purchaser and manufacturer.
8.3	Hardness Test	8.3 Table 6	IS 513(part 1):2016 IS 1586	One	-do-	-do-	Applicable for steel grades of quality CR0, CR1.
8.4	Bend Test	8.4.1, 8.4.2,8.4.3 & 8.4.4 Table 7	IS 513(part 1):2016 IS 1599	One	-do-	-do-	
8.5	Plastic Strain Ratio	8.5.1 8.5.2 Table 5A,5B, 5C	IS 513(part 1):2016 IS 11999	One	-do-	-do-	
8.6	Tensile strain hardening component	8.6.1 8.6.2 Table 5A,5B, 5C	IS 513(part 1):2016 IS 15756	One	-do-	-do-	
8.7	Bake hardening Index	8.7 Annex B Table 5B,5C	IS 513(part 1):2016	One	-do-	-do-	Applicable only for steel designation- Bake hardening
5.	Non-ageing characteristics	5.1, 5.2& 5.3 Table 2	IS 513(part 1):2016	-	-	Each Control Unit	Applicable for steel grades of CR2, CR3, delay ageing quality and non-ageing quality.
9	Surface condition	9.1,9.2,9.3, 9.4	IS 513(part 1):2016	As agreed between the purchaser and the supplier.			
9.5	Surface Finish	9.5.1, 9.5.2 & 9.5.3	IS 513(part 1):2016 IS 15262	As agreed between the purchaser and the supplier.			
10	Freedom from defects	10.1,10.2 &10.3	IS 513(part 1):2016	Adequate inspection to ensure each item to be free from defects			
11	Dimensions & Tolerances	11.1,11.2 & 11.3	IS 513(part 1):2016	Adequate inspection to ensure each item to be within the limits of specification.			

			IS/ISO16162		
4	Supply of material	4.1,4.2 &4.3	IS 513(part 1):2016	As agreed to between the purchaser and the supplier	Records of mechanical properties as agreed to between purchaser and the manufacturer as per cl.4.3 of ISS shall be maintained.
13.3	Packing	13.3 9.6 Table 9	IS 513(part 1):2016	Each Sheet/strip shall be treated on both sides with non-hardening type rust preventive oil, which can be easily washed with aqueous alkali solution.	i) Weight of sheets and strips in bundles or packages shall be as agreed to between the purchaser and the manufacturer. ii) The product may not be oiled, only if required by the purchaser.

BIS

STANDARD MARK

ANNEXURE-I
(Para 4.1 of the Scheme of Testing and Inspection)
XYZ IRON AND STEEL COMPANY
(Registered office Address and works address)

TEST CERTIFICATE FOR COLD REDUCED CARBON STEEL SHEET AND STRIP PART 1 COLD FORMING AND DRAWING PURPOSE

TEST CERTIFICATE No._____DATE_____
To M/s_____

It is certified that the material described below fully conforms to IS 513(part 1):2016 Chemical composition and Mechanical properties of the product, as tested in accordance with the Scheme of Testing and Inspection contained in the BIS Certification Marks Licence No.CM/L_____ are as indicated below against each order No. etc.

(PLEASE REFER TO IS 513(part1):2016 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No.	Dimensions	Cast No. & C.U. No.	Nomenclature of steel grade quality	Quantity (Tonnes)	Chemical Analysis								Erichsen Cupping Test	hardness	BH index	+Mechanical Properties			r	n	Non-ageing characteristics	Condition & Finish
					C (%)			Al (%)	** Cu (%)	S (%)	P (%)	N (%)				Yield Stress (N/mm^2)	Tensile Strength (N/mm^2)	Elongation (%)				

The material supplied conforms to the stipulated rolling tolerances.
** For Copper bearing quality
+ If specified by the purchaser
Remarks:

SIGNATURE DESIGNATION FOR XYZ
IRON & STEEL COMPANY

(It is suggested that size A-4 paper (210X297) be used for this certificate)

PROFORMA FOR OBTAINING PRODUCTION DETAILS

Period covered	
Name of Licensee	
Name of Articles (s)	IS No.
Grade/Type/Size/Variety/Class/Rating	
Brand/Trade/Name(s) of Product covered under BIS Certification Mark	
Total production of the articles(s) licensed for certification marking	
Total production of the article(s) conforming to Indian Standard	
Production covered with BIS Certification Mark and its Value : a) Quantity	
Brand Name used on production covered under BIS Certification Mark	
Calculation of marking fee on unit-rate basis; Marking Fee per unit a) Unit b) Quantity covered with BIS Certification Mark c) Marking fee rounded off in whole rupees as obtained by applying unit rates given in (a) on quantity given in (b)	
Quantity not covered with BIS Certification Mark, if any.	
Reasons for such non-coverage	
Brand Name under which non-ISI goods were sold	
Quantity exported with BIS Standard Mark and its value	
Brand Name under which BIS Certified goods are exported	
Authentication by Chartered Accountant	

SCHEME OF TESTING AND INSPECTION FOR CERTIFICATION OF COLD REDUCED CARBON STEEL SHEET AND STRIP PART 2 HIGH TENSILE AND MULTI-PHASE STEEL ACCORDING TO IS 513 (part 2):2016 (Sixth Revision)

1 **LABORATORY -** A laboratory shall be maintained which shall be suitably equipped and staffed, where the tests shall be carried out in accordance with the methods given in the specification.

1.1 All testing apparatus/measuring instruments shall be periodically checked, verified and calibrated as appropriate and records of such checks/verification, calibration shall be maintained.

1.2 Periodic calibration shall be done on the tensile testing machine. The frequency of such calibration should preferably be once in six months, and in any case, not more than once in a year.

2 TEST RECORDS - All records of tests as per this scheme of testing and inspection shall be kept in suitable forms.

2.1 Copies of any records or charts that may be required by BIS shall be made available at any time on request.

3. QUALITY CONTROL – It is recommended that, as far as possible, Statistical Quality Control (SQC) methods may be used for controlling the quality of the product during production as envisaged in this scheme [See IS 397 (Part 1), IS 397 (Part 2) and IS 397 (Part 3)].

3.1 In addition efforts should be made to gradually introduce the Quality Management System in accordance with IS/ISO 9001.

4 **STANDARD MARK** - The Standard Mark, as given in Column (1) of the first schedule of the licence, as specified for cold rolled carbon steel sheets and strips as per IS 513(part 2):2016 shall be legibly marked on top of each package of sheets and strips.

4.1 **TEST CERTIFICATE** – For each consignment of BIS Certified material conforming to IS 513(part 2):2016 there shall be a test certificate which shall contain the Standard Mark, the cast number, Control Unit number, designation, grade and the corresponding test results (as given in Annexure I).

4.2 **MARKING** – The following shall be legibly marked on the top of each bundle or package of sheets and strips or shown on a tag attached to each coil :

a) Manufacturer's name or trade mark,
b) Nomenclature of grade Quality
c) Product dimensions,
d) Cast or identification mark by which the sheet or strip may be traced to the cast or casts from which they were made,
e) Mass/Net weight and

f) Date of manufacture
g) Licence No. (CM/L….)
h) surface finish designation

4.3 SUPPLY OF MATERIAL AND DELIVERY CONDITIONS - The material shall meet the requirements of clause 4 and 12 of the specification.

4.3.1 **PACKING** - Each sheet shall be treated on both sides with non-hardening type preventive oil which can be easily washed with aqueous alkali solution. The product may be ordered "not oiled" if required [Ref. cl.8.6 of IS 513(part 2):2016].

4.3.2 Sheets and strips shall be supplied in bundles or packages not weighing more than 3 tonnes or as agreed to between the purchaser and the manufacturer.

4.3.3 Sheets and strips shall be securely packed in waterproof material and covered all over with steel envelope and securely tied round with steel straps and preferably with wooden battens underneath to prevent the sheets from rusting and damage during transit.

5. LEVELS OF CONTROL : Inspection and tests at various levels of control specified in Table 1 shall be carried out on all quantities of steel intended to be covered under this scheme and appropriate records as per para 2 and charts as per para 3 of this STI shall be maintained. All production which conforms to the Indian Standard and covered by the licence shall be marked with BIS Standard Mark.

5.1 **METHOD OF MANUFACTURE** – The method of manufacture of Steel for sheets and strips shall be left at the discretion of the manufacturer.

5.2 **CONTROL UNIT:** For the purpose of this scheme, 50 tonnes of material or part thereof representing the same cast, grade quality and heat-treatment (if any) rolled to same thickness and processed in same condition shall constitute a control unit.

5.3 Sheets and strips shall be supplied rimmed, semi-killed or killed condition as agreed to between the purchaser and the manufacturer.

5.4 On the basis of tests and inspection results, decision regarding conformity or otherwise of lots of steel to the requirements of the specification shall be taken as indicated below:

5.5 **CHEMICAL COMPOSITION** - Chemical composition (Ladle analysis) obtained by analyzing one sample from each heat shall conform to the requirements laid down in Table 2 of the specification. Product analysis shall be carried out at the rate of one from every cast and the permissible variation in the case of product analysis shall be as laid down in Table 3 of the specification. The analysis of the steel shall be carried out according to IS 228 and its relevant parts or any other established instrumental/chemical method. Alternatively, the method specified in relevant ISO standard may be used. In case of dispute the procedure given in IS 228 and its relevant parts shall be referee method. The manufacturer shall declare the established instrumental method adopted for chemical analysis, details of the reference material accompanied with test certificate used for its calibration and frequency of calibration.

5.6 **RETEST -** If a test does not give the specified results, two additional tests shall be carried out at random on the same lot. Both retests shall conform to the requirements of this standard, otherwise, the control unit shall be rejected.

6. **REJECTIONS** - Any rejected material which is potentially re-salable be sheared or cut or deformed in such a manner that it cannot be used for any other purpose except re-melting. A separate record shall be maintained giving information on quantity and cast number/coil number/control unit number, as applicable, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

7 SAMPLES - The licensee shall supply, free of charge, the samples required in accordance with Regulation of the Bureau of Indian Standards from his factory or godown. BIS may procure samples from open market.

8.0 REPLACEMENT - Whenever a complaint is received soon after the goods with Standards Mark have been purchased and used, and if there is adequate evidence that the goods have not been misused, defective goods shall be replaced free of cost by the licensee in case the complaint is proved to be genuine and the warranty period (where applicable) has not expired. The final authority to judge conformity of the product to the Indian standards shall be with the Bureau. The firm shall have own complaint investigation system as per IS/ISO 10002.

8.1 In the event of any damage caused by the goods bearing the Standard Mark, or claim being filed by the consumers against BIS Standards Mark and not "conforming to" the relevant Indian Standard, entire liability arising out of such non conforming product shall be of the licensee and BIS shall not in any way be responsible in such cases.

9. STOP MARKING - The marking of the product shall be stopped under intimation to the Bureau if, at any time, there is any difficulty in maintaining the conformity of their product to the specification, or the testing equipment goes out of order or for any reason. The marking may be resumed as soon as the defects are removed under intimation to BIS. The licensee shall implement the provisions of self-stoppage of Marking as mentioned in BIS Act, Rules and Regulations.

9.1 The marking of the product shall be stopped immediately if directed to do so by Bureau for any reason. The marking may then be resumed only after permission by the Bureau. The information regarding resumption of markings shall also be sent to the Bureau.

10 PRODUCTION DATA - The licensee shall send to BIS a statement of quantity produced, marked and exported and the value thereof at the end of each operative year of the licence as per the enclosed proforma which has to be authenticated by a Chartered Accountant.

Table 1…..

IS 513(part 2):2016, COLD REDUCED CARBON STEEL SHEET AND STRIP
PART 2 HIGH TENSILE AND MULTI-PHASE STEEL
TABLEL 1 (LEVELS OF CONTROL),
(Para 5 of the Scheme of Testing and Inspection)

TEST DETAILS				LEVELS OF CONTROL			REMARKS
Cl	Requirement	Test Method		No. of samples	Lot size	Frequency	
		Clause	Reference				
6	**Chemical Composition**	IS 228 or any other established instr/ Chem. Method. Alternatively, the method specified in relevant ISO/IEC standard may be used.					
	a) Ladle Analysis	6.a 6.b Table 2	IS 513(part 2):2016 IS 228	One	Each Heat	Each Heat	Applicable for primary steel producers only
	b) Product Analysis	6.c Table 3	IS 513(part 2):2016	i) Nil ii) One	i) Nil ii) Each Cast	i)----- ii)Each Cast	i) Applicable for primary steel producers with steel making and rolling facilities, wherever traceability to the heat is ensured by the manufacturer. ii) Applicable for manufacturers feeding to rolling mills. In case the material obtained from primary producers of steel is ISI marked and received with test certificate no further testing is required.
7	**Mechanical and Physical Properties**						
7.1	Tensile Test	7.1.1, 7.1.2,7.1.3 , & 7.1.4 Table 4A,4B	IS 513(part 2):2016 IS 1608	One	50 tonnes or less	Each Control Unit	To be carried out only if specified by the purchaser
7.2	Bend Test	7.2.1, 7.2.2,7.2.3 & 7.2.4 Table 5	IS 513(part 2):2016 IS 1599	One	-do-	-do-	
7.3	Tensile strain hardening component	7.3.1,7.3.2 Table 4A,4B	IS 513(part 2):2016 IS 15756	One	50 tonnes or less	Each Control Unit	

8	Surface Finish						
8.4	Surface Condition	8.4.1 8.4.2 8.4.3 8.4.4 8.4.5	IS 513(part 2):2016	Adequate inspection to ensure each item is supplied either of the surface qualities A or B			
8.5	Surface Finish	8.5.1 8.5.2 8.5.3 Table 6	IS 513(part 2):2016	One	Each Sheet/strip	Each Sheet/strip	
9	Freedom from defects	9.1,9.2 &9.3	IS 513(part 2):2016	Adequate inspection to ensure each item to be free from defects			
10	Dimensions & Tolerances	10.1,10.2 & 10.3	IS 513(part 2):2016 IS/ISO16162	Adequate inspection to ensure each item to be within the limits of specification.			
12	Packing	12.3 8.6 Table 7	IS 513(part 2):2016	Each Sheet/strip shall be treated on both sides with non-hardening type rust preventive oil, which can be easily washed with aqueous alkali solution.			i) Weight of sheets and strips in bundles or packages shall be as agreed to between the purchaser and the manufacturer. ii) The product may not be oiled, only if required by the purchaser.

BIS STANDARD MARK

ANNEXURE-I
(Para 4.1 of the Scheme of Testing and Inspection)
XYZ IRON AND STEEL COMPANY
(Registered office Address and works address)

TEST CERTIFICATE FOR COLD REDUCED CARBON STEEL SHEET AND STRIP PART 2 HIGH TENSILE AND MULTI-PHASE STEEL

TEST CERTIFICATE No._____DATE_____
To M/s_____

It is certified that the material described below fully conforms to IS 513(part 2):2016 Chemical composition and Mechanical properties of the product, as tested in accordance with the Scheme of Testing and Inspection contained in the BIS Certification Marks Licence No.CM/L_____ are as indicated below against each order No. etc.

(PLEASE REFER TO IS 513(part2):2016 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No.	Dimensions	Cast No. & C.U. No.	Nomenclature of steel grade quality	Quantity (Tonnes)	Chemical Analysis											n	+Surface roughness	Surface Condition & Finish
					C (%)					S (%)	P (%)	N (%)	Yield Stress (N/mm^2)	Tensile Strength (N/mm^2)	Elongation (%)			

The material supplied conforms to the stipulated rolling tolerances.

+ If required by the purchaser
Remarks:

SIGNATURE DESIGNATION FOR XYZ
IRON & STEEL COMPANY

(It is suggested that size A-4 paper (210X297) be used for this certificate)

PROFORMA FOR OBTAINING PRODUCTION DETAILS

Period covered	
Name of Licensee	
Name of Articles (s)	IS No.
Grade/Type/Size/Variety/Class/Rating	
Brand/Trade/Name(s) of Product covered under BIS Certification Mark	
Total production of the articles(s) licensed for certification marking	
Total production of the article(s) conforming to Indian Standard	
Production covered with BIS Certification Mark and its Value : a) Quantity	
Brand Name used on production covered under BIS Certification Mark	
Calculation of marking fee on unit-rate basis; Marking Fee per unit a) Unit b) Quantity covered with BIS Certification Mark c) Marking fee rounded off in whole rupees as obtained by applying unit rates given in (a) on quantity given in (b)	
Quantity not covered with BIS Certification Mark, if any.	
Reasons for such non-coverage	
Brand Name under which non-ISI goods were sold	
Quantity exported with BIS Standard Mark and its value	
Brand Name under which BIS Certified goods are exported	
Authentication by Chartered Accountant	

SCHEME OF TESTING AND INSPECTION FOR CERTIFICATION OF HOT ROLLED CARBON STEEL STRIP FOR COLD ROLLING PURPOSES ACCORDING TO IS 11513:2017

1 LABORATORY

1.1 A laboratory shall be maintained which shall be suitably equipped and staffed, where the tests shall be carried out in accordance with the methods given in the specification.

1.2 All testing apparatus/measuring instruments shall be periodically checked, verified and calibrated as appropriate and records of such checks/verification, calibration shall be maintained.

2 TEST RECORDS

2.1 All records of tests as per this scheme of testing and inspection shall be kept in suitable forms.

2.2 Copies of any records or charts that may be required by BIS shall be made available at any time on request.

3 QUALITY CONTROL

3.1 It is recommended that, as far as possible, Statistical Quality Control (SQC) methods may be used for controlling quality of the product during production as envisaged in this scheme [See IS 397 (Part 1), IS 397 (Part 2) and IS 397 (Part 3)].

3.2 In addition efforts should be made to gradually introduce the Quality Management System in accordance with IS/ISO 9001.

4 MARKING

4.1 **Standard Mark-** The standard mark as given in column (1) of the First Schedule of the licence shall be marked on the product, as specified for Hot Rolled Carbon Steel Strip for Cold Rolling Purposes as per IS 11513:2017, shall be legibly marked on top of each package of carbon steel strips.

4.2 **Test Certificate** – For each consignment of BIS Certified material conforming to IS 11513:2017 there shall be a test certificate which shall contain the Standard Mark, the cast number, Control Unit number, grade and the corresponding test results (as given in Annexure I).

4.3 **Other Marking -** In addition, each pack carry a metal tag/adhesive sticker label/sticker bearing the cast number, size, grade, mass of the coil and the manufacturer's name or trade mark or shall be marked at the top legibly.

5 LEVELS OF CONTROL

5.1 Inspection and tests at various levels of control specified in Table 1 shall be carried out on all quantities of steel intended to be covered under this scheme and appropriate records as per para 2 and charts as per para 3 of this STI shall be maintained. All production which conforms to the Indian Standard and covered by the licence shall be marked with BIS Standard Mark.

5.2 In respect of all other clauses of the specification the factory will maintain appropriate control and checks to ensure that their product conforms to the various requirements of this specification.

6 REJECTION

6.1 A Any rejected material which is potentially re-salable be sheared or cut or deformed in such a manner that it cannot be used for any other purpose except re-melting. A separate record shall be maintained giving information on quantity and cast number/coil number/control unit number, as applicable, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

7 SAMPLES

7.1 The licensee shall supply, free of charge, the samples required in accordance with Regulation of the Bureau of Indian Standards from his factory or godown. BIS may procure samples from open market.

8 REPLACEMENT

8.1 Whenever a complaint is received soon after the goods with Standards Mark have been purchased and used, and if there is adequate evidence that the goods have not been misused, defective goods shall be replaced free of cost by the licensee in case the complaint is proved to be genuine and the warranty period (where applicable) has not expired. The final authority to judge conformity of the product to the Indian standards shall be with the Bureau. The firm shall have own complaint investigation system as per IS/ISO 10002.

8.2 In the event of any damage caused by the goods bearing the Standard Mark, or claim being filed by the consumers against BIS Standards Mark and not "conforming to" the relevant Indian Standard, entire liability arising out of such non conforming product shall be of the licensee and BIS shall not in any way be responsible in such cases.

9 STOP MARKING

9.1 The marking of the product shall be stopped under intimation to the Bureau if, at any time, there is any difficulty in maintaining the conformity of their product to the specification, or the testing equipment goes out of order or for any reason. The marking may be resumed as soon as the defects are removed under intimation to BIS. The licensee shall implement the provisions of self-stoppage of Marking as mentioned in BIS Act, Rules and Regulations.

9.2 The marking of the product shall be stopped immediately if directed to do so by Bureau for any reason. The marking may then be resumed only after permission by the Bureau. The information regarding resumption of markings shall also be sent to the Bureau.

10 PRODUCTION DATA

The licensee shall send to BIS a statement of quantity produced, marked and exported and the value thereof at the end of each operative year of the licence as per the enclosed proforma which has to be authenticated by a Chartered Accountant.

Table 1…..

IS 11513:2017
SPECIFICATION FOR
HOT ROLLED CARBON STEEL STRIP FOR
COLD ROLLING PURPOSES
TABLE 1 LEVELS OF CONTROLS
(Para 5 of Scheme of Testing and Inspection)

TEST DETAILS				**LEVELS OF CONTROL**			**REMARKS**
Cl	**Requirement**	**Test Method**		**No. of samples**	**Lot size**	**Frequency**	
		Clause	**Reference**				
5	Manufacture	5.1.1	IS 11513:2017	-	-	-	Records of condition supplied shall be maintained for grades CR0 & CR1.
6	Chemical Composition	Chemical analysis of the material can be carried out using method specified in relevant parts of IS 228 or any other established instrumental/chemical method					
	a) Ladle Analysis	6.1 Table-1	IS 11513:2017 IS 228	One	Each Heat	Each Heat	Applicable for manufacturers with steel making and hot rolling facilities
	b) Product Analysis	6.2 Table 2	IS 11513:2017 IS 228	i)Nil ii)One	i)Nil ii)Each Cast	i)----- ii)Each Cast	i) Applicable for primary steel producers with steel making and rolling facilities, wherever traceability to the heat is ensured by the manufacturer. ii) *Applicable for re-rollers.
	***No testing is required if the material received is ISI marked and received with test certificate.**						

7	Retest	**7**	IS 11513:2017	If a test does not give the specified results, two additional tests shall be carried out at random on the same cast/coil, as applicable. Both retests shall conform to the requirements of this standard; otherwise, the cast/coil shall be rejected.			
8	Freedom Defects	8	IS 11513:2017	Adequate inspection to ensure each coil is to be free from defects			
9	Dimensions and Tolerances i)Standard Dimensions ii)Thickness iii)Crown iv) Nominal Width v)Edge Camber	 9.1 9.2 9.3 9.4 9.5 9.6	IS 11513:2017 IS 1730 IS/ISO 16160	One	Each Coil	Each Coil	Any special tolerances to suit Specific requirements shall be mutually agreed to between the manufacturer and the customer and records of the same shall be maintained.

BIS

STANDARD MARK

ANNEXURE-I
(Para 4.2 of the Scheme of Testing and Inspection)
XYZ IRON AND STEEL COMPANY
(Registered office Address and works address)

TEST CERTIFICATE FOR HOT ROLLED CARBON STEEL STRIP FOR COLD ROLLING PURPOSES

TEST CERTIFICATE No._____DATE_____
To M/s_____

It is certified that the material described below fully conforms to IS 11513:2017 Chemical composition and Dimensions of the product, as tested in accordance with the Scheme of Testing and Inspection contained in the BIS Certification Marks Licence No.CM/L_____ are as indicated below against each order No. etc.

(PLEASE REFER TO IS 11513:2017 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No.	Dimensions	Cast No. & Coil No.	Grade	Mass of the coil (Kg/ Tonnes)	Chemical Analysis								crown	Camber	Condition (Type of killing /Rimmed)
					C (%)	Mn (%)	S (%)	Al (%)	Si (%)	P (%)	* Cu (%)	Micro alloying elements			

The material supplied conforms to the standard/stipulated rolling tolerances.

*For Copper bearing quality
Remarks:

SIGNATURE DESIGNATION FOR XYZ
IRON & STEEL COMPANY

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